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HISTO ARCHITECTURE OF THE NEURO SECRETORY ORGANS IN A FRESH WATER PRAWN

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ABSTRACT

In athe recent years culture of fresh water prawn is becoming very popular because of its food taste and highly demand in world market. They are one of the most economically important cultured crustaceans.Homeostatis in crustacean is activated mainly with the help of two integrating system endocrine and prepharal nervous system.

INTRODUCTION

As the food resources of land are lately not increasing in proportion to the growth of human population ,water bodies afford the next frontier for exploitation.Among freshwater genera such as Ralaemon,Macrobrachium and leander,the geneus macrobrachium is considered to be the most important.

Hence it appears necessary to study the ecological needs and physcological system with regard to maturation breeding and endocrine control of fresh water prawn.

MATERIAL AND METHODS

The specimens of the freshwater prawn macrobracium malcolmsonii were collected from Ganga river at Patna(Bihar).

The annual reproduction cycle was determined on the basis of:

A. Percentage of sex ratio composition.

B. Preponderarne of reproducing and non reproducing females.

C. Percentage of occurance of ovigenous females.

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D. Percentage of maturity of female gonads.

E. Morpho-histological observation of gonads.

The purpose of selecting the site at Patna was that it is an approachable place with the established fact that the availability of jurnile and adult of this species prawn in good number.

OBSERVATION

Histological observations revealed that the thoracic ganglian contains some specialized cells.These cells differ from the ordinary nerve cellsin having neurosectory material(NSM) in them hence are taken to be NSCS.Depending on their cytological characteristics such as the shape,size,with or without axons,condition of cytoplasm.

NEUROSECRETORY CELL TYPES IN THE EYE-STALK,BRAIN AND THE THORACIC GANGLION OF *M.MALCOLMSONII*

Cell Types	Size range (um)	GHP Mallory's triple Stain	Staining Property Paraldehyde Fuchsin		Eye-stalk	Brain	Thoracic ganglion
'A'	70-84	Deep Blue	Pinkish violet	Violet	Absent	Absent	Present
'B'	41-64	Deep Blue	Pinkish violet	Violet	Absent	Present	Present
'C'	22-40	Blue	Pinkish	Violet	Present	Present	Present
'D'	15-21	Blue	Pinkish	Violet	Present	Present	Present
'E'	3.16-14	Blue	Pinkish	Yellowish	Present	Present	Present

DISCUSSION

Neuroendocrine System

Present study reveals that the neuroendocrine system of M.Malcolmsonii consists of the thoracic ganglion.The types of NSCS observed during the course of present study fall under five groups A B C D E.Similar observation have been made by Joshi(1980) in

P.Hardwickii,Nagabhushanam(1986) in M.Lamarrei & Biswas(1991) in Macrobrachium dayanum.

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